



Contract Research Solutions

Innovotech is a Pioneer in Biofilm and Antimicrobial Contract Research

Innovotech's high throughput systems ideal for rapid and cost-effective screening for a variety of systems and applications. The MBEC Assay® and BEST Assay™ microbial systems can be used for investigating disinfectants, antimicrobial coatings, and many other applications covering the full range from development through regulatory submission to post-market analysis.

Innovotech is accredited by CALA to ISO/IEC 17025:2017 (testing accreditation number A4146 for Enumerating Bacteria – Solids and Enumerating Bacteria – Liquid).



In Vitro Antimicrobial Testing

Innovotech has an experienced research team that will work with you to develop experimental protocols to achieve your specific needs.

Innovotech's Contract Research services cover the following applications and more:

- Implanted device antimicrobial testing
- Anti-encrustation testing
- Antibiotic and biocide efficacy screening
- Agricultural diseases and food safety
- Dental biofilms
- Waterline and pipeline fouling
- Regulatory submission packages
- Consulting services
- Third party validations

Our assays and services include the following:

- Biofilm antimicrobial testing
- Planktonic antimicrobial testing
- Testing for inhibition of biofilm formation
- Testing of aerobic and anaerobic microorganisms
- Anti-spore testing
- Imaging: Scanning Electron Microscopy (SEM)
- TM100
- ISO 22196
- USP 51
- MIC testing
- MBEC Assay (ASTM E2799)

BEST Assay™ Testing

The BEST Assay™ system has been developed specifically to bring *in vitro* medical device testing one step closer to truly mimicking a clinical setting.

- Handles wound dressings, bone implants and other medical devices with different sizes and for different clinical applications
- Tests both intraluminal and extraluminal surfaces of catheters simultaneously
- Incorporates biologically relevant fluids to more precisely simulate the clinical conditions.
- Saves time, and uses less product accelerating your research results

Analytical Capabilities

Innovotech's experienced team supports the following analytical services:

- Water content measurement (Karl Fischer)
 - Direct injection
 - Thermal extraction
- Atomic absorption spectroscopy (AAS)
- UV-Vis spectroscopy
- Stability
 - Thermal, Storage, Hydrolysis
- X-ray diffraction (XRD)
 - Sample ID
 - Quantitative phase analysis (QPA)
 - Crystallite size
- HPLC
- Scanning electron microscopy (SEM) with energy-dispersive x-ray spectroscopy
 - Particle size/shape/distribution
 - Elemental analysis
- Mass spectrometry



Bacteriophage Testing

Utilising the MBEC Assay® platform, host bacteria and biofilms can be exposed to bacteriophage to test for:

- Biofilm formation inhibition
- Killing of preformed biofilms
- Bacteriophage adhesion to target surfaces and coatings

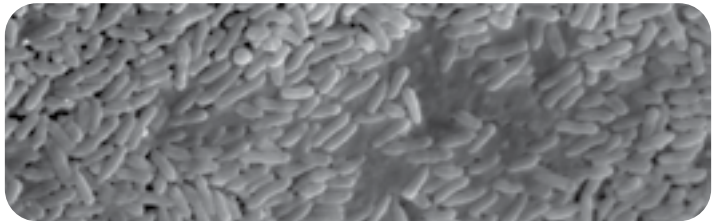
Our current model organisms are the host Escherichia coli ATCC 13706 and bacteriophage Phi x174

Other host/phage pairs are available on request.

Antimicrobial and Anti-Biofilm Testing

Our testing follows:

- TM100
- ISO 22196
- USP 51
- MIC; CLSI M07
- ASTM E2799 guidelines and methods



MBEC Assay® Testing

We don't just sell it, we use it!

Innovotech's MBEC Assay® device allows for rapid testing of antimicrobials and biofilm formation inhibitors for anti-biofilm activity. To date, the MBEC Assay® methods and device has been featured in hundreds of peer-reviewed publications. The MBEC Assay® method is supported by ASTM (E2799-22).

MBEC Assay® testing helps generate data packages such as:

- Qualitative data package (MBEC – minimum biofilm eradication concentration)
- Quantitative data package (Log¹⁰ reduction)
- Biofilm formation inhibition testing

The MBEC Assay® lid can be coated with titanium dioxide, hydroxyapatite, cellulose, or other custom coatings to simulate clinical or environmental settings.

BEST Assay™ Testing

The Biofilm Eradication Surface Test (BEST Assay™) system allows for the screening of antimicrobial surfaces and coatings in a market-ready format using a matrix-driven system. The assay has been used with coated medical devices for successful 510k submissions to the FDA.

Can be used to evaluate many types of medical devices:

- Can use the actual device (finished product)
- Allows for preconditioning with serum, urine, saliva or saline
- Dynamic (rather than static) environment
- Flexible contact time with fluids (pre-challenge rinse)
- Log¹⁰ reduction (planktonic and/or biofilm)
- Encrustation testing
- Antimicrobial testing (coated or incorporated antimicrobials)



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